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Al Neyadi's 'stellar' role in Saudi astronauts' stem cell study

Sultan of Space also posts picture of Oman taken from the ISS

DUBAI
BY SAJILA SASENDRAN
Senior Reporter

After welcoming his two Saudi counterparts to the International Space Station (ISS) on Monday, UAE astronaut Sultan Al Neyadi has swung into action to support their space experiments.

The Sultan of Space, who is on the longest Arab space mission aboard the ISS, was joined by Rayyanah Barnawi, the first female Arab astronaut, and her colleague Ali Al Qarni, to form the largest group of Najmonauts (Arab astronauts) in space.

The duo along with their Axiom Mission-2 (Ax-2) crew members Peggy Whitson and John Shoffner are expected to conduct experiments on board the space station for eight days.

Al Neyadi, who turned 42 on Tuesday, is assisting them with their science experiments, according to an update by Nasa.

Al Neyadi set up the Stellar Stem Cells experiment, an Ax-2 investigation, that will explore regenerative medicine therapies.

Stem cell therapy promotes the repair response of diseased, dysfunctional or injured tissue using stem cells or their derivatives. It is the next chapter in organ transplantation.

What is the experiment?

"Establishing In-Space Production of Stem Cell Therapies [Stellar Stem Cells (Ax-2)] on the Axiom-2 [Ax-2] private astronaut mission [PAM] evaluates the impact of gravity on terrestrial methods used to generate, proliferate, and differentiate stem cells into a variety of tissue types," Nasa said.

Stellar Stem Cells (Ax-2) evaluates the impact of microgravity on experimental steps involved in stem cell reprogramming, differentiation and manufacturing.

How will it benefit?

"Understanding how microgravity affects the key aspects of stem cell growth and transfection/lipofection may help overcome some of the technical issues associated with stem cell proliferation and differentiation and establish the utility of growing cells in low-Earth orbit. Investigation results will guide the next missions and ultimately help develop a basis



■ Sultan Al Neyadi

Stellar Stem Cells (Ax-2) evaluates the impact of microgravity on stem cell reprogramming, differentiation and manufacturing.

for regenerative medicine stem cell manufacturing technology on orbit," Nasa said.

The capability to produce stem cells in microgravity could support development of



■ Sultan Al Neyadi shared a picture of Oman and UAE taken from ISS yesterday. He captioned the post, '#Oman and #UAE united as one from space!'

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Astrobee, which he described as "a free-flying space robot, assisting us in our daily tasks, scientific experiments and educational activities. Astrobee and I are preparing something special. Stay tuned."

Celebrating Oman ties

Also yesterday, Al Neyadi chose Oman for his latest photo from space. Sharing a view of the two neighbouring countries from the orbital laboratory more than 400km above Earth, he posted: "#Oman and #UAE united as one from space. Celebrating the strong ties and shared heritage that bind us."

In his Arabic tweet, he added that the image was 'the most beautiful expression of the brotherhood' between the two countries.

Al Neyadi had earlier shared several space images of various Arab countries with his followers and had also posted a video that gives a space tour of the pan-Arabian region.

regenerative medicine therapies to maintain crew health on long-duration space missions. This project could also help define methods for stem cell production on orbit to address challenges that limit the full potential of stem cell therapies.

'Something special'

Al Neyadi yesterday shared a tweet about his "friend"